

TOSHIBA

OWNER'S MANUAL

Video Cassette Recorder



V-226B

VIDEO*Plus+*

Before using this VTR

See the Quick Start Guide to set up this VTR.

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This publication is printed
on recycled paper.

Welcome to the high quality picture world created by the TOSHIBA V-226B. Read this manual carefully before using, and enjoy the various convenient functions of this VTR.

Record the model and serial Nos. located on the rear of your VTR (Video Tape Recorder) in the spaces provided below.

Model No. _____ Serial No. _____

General Information

If the socket outlets in your home are not suitable for the plug supplied with this unit, the plug must be cut off and an appropriate one fitted.

The plug severed from this mains lead must be destroyed as it is hazardous if inserted into a live socket.

IMPORTANT

The wires in this mains lead are coloured in accordance with the following code:

BLUE: NEUTRAL

BROWN: LIVE

As the colours of the wires in the mains lead of this unit may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire that is coloured blue must be connected to the terminal in the plug which is marked with the letter N or coloured black.

The wire that is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

Do not connect either wire to the earth terminal which is marked by the letter E or by the safety earth symbol \perp or coloured green or green-and-yellow.

Use a 3A fuse which is approved by ASTA or BSI to BS1362.

Always replace the fuse cover after changing the fuse.

To obtain the best performance and lasting satisfaction from your VTR;
see that it is properly installed with an adequate antenna system;
have it regularly checked by a qualified technical organization;
ensure that it is correctly used by all in the family.

ABOVE ALL:

Never let children insert any objects into holes or slots in the case as it may result in electric shocks.

Never guess or take a chance with your VTR—it is better to be safe than sorry!

PRECAUTIONS

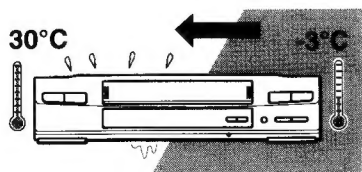
- Do not install the VTR in a location near heat sources, such as radiators or air ducts, or in a place subject to direct sunlight, excessive dust, mechanical vibrations or impacts.
- Allow adequate air circulation to prevent internal heat build-up. Do not place the VTR on soft surfaces (rugs, blankets, etc.), too near materials such as curtains and draperies or in a built-in installation such as a bookcase or rack.
- Keep the VTR and the video cassettes away from strong magnetic fields.
- To disconnect the lead, pull it out by the plug. Never pull the lead itself.
- Do not drop any inflammable or metallic objects, or liquid into the VTR. This may cause damage to the unit.
- Do not hit or shake the unit when moving it. This may cause damage.
- Remove the cassette from the VTR when not in use.
- Save the original carton and packing materials: they will come in handy if you ever have to transport your VTR. For maximum protections, repack the unit as it was originally packed at the factory.
- Do not use volatile liquids such as insect spray near the unit.
Do not leave rubber or plastic products touching the unit for a long time. They will mar the finish.

MOISTURE CONDENSATION:

Never operate this VTR immediately after moving it from a cold location to a warm location. In this case, connect the power cable of the VTR to an AC outlet to turn the power on and leave it for TWO TO THREE hours without operating it. When the VTR is exposed to such a change in temperature, moisture may condense on the cylinder inside of the VTR, one of its most crucial internal parts. If moisture condensation occurs inside the VTR, the cassette tape may stick to the surface of the cylinder causing damage to the tape itself or the video head.

Moisture condensation is most likely to occur in the following cases:

- When moved from a cold location to a warm location.
- In a room rapidly heated or in a place where the VTR is directly exposed to cool flow of air from an air-conditioner or other electrical appliance.
- In a room with excessive dampness or high humidity.



HQ
HIGH QUALITY

HQ VHS is compatible with existing VHS equipment.

Only cassettes marked **VHS** can be used with the VTR.

WARNING:

TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE. TO PREVENT ELECTRIC SHOCK, DO NOT OPEN THE CABINET. REFER SERVICING TO QUALIFIED PERSONNEL ONLY.

The unit is not disconnected from the AC power source as long as it is connected to the wall outlet, even if the unit itself has been turned off.

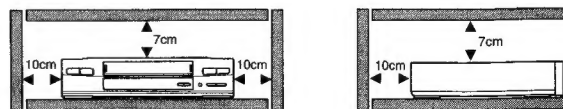
NOTE:

The rating plate and the safety caution are on the rear of the unit.

IMPORTANT:

Purchasers and users of video tape recording machines are warned that, in the absence of appropriate licences from the copyrights owners, the recording of television broadcasts or the re-recording of prerecorded video tapes or tapes of television broadcasts will usually infringe the rights of copyrights owners in the broadcasts or tapes and other cinematographic, dramatic, artistic, sound recording, musical or literary copyrights. Infringement of copyrights is unlawful.

Follow the drawing below to leave space around your video recorder to ensure proper ventilation.



This product conforms with the requirements of Directives 73/23/EEC, 89/336/EEC, 92/31/EEC and Articles 5 and 13 of Directive 93/68/EEC.

**Video Plus+**

This VTR is equipped with the Video Plus+* programming system which allows easy unattended recording. All you have to do is to choose the programme you want to record from your TV listings pages and enter the PlusCode* to a maximum of 9 digits published next to the programme title.

* Video Plus+ and PlusCode are trademarks of Gemstar Development Corp. Video Plus+ system is manufactured under license from Gemstar Development Corporation.

AUTO SET-UP

Your VTR can automatically store TV stations in the memory and set the clock, if you connect only the aerial cable to the VTR and the power cable to the wall outlet.

HIGH QUALITY PICTURE

The HQ (High Quality) feature reduces the noise of the brightness and colour signals. Image outline and detail are improved.

VIDEO SYSTEM COMPATIBILITY

- **VIDEO SYSTEM**
This VTR is compatible with PAL and NTSC 4.43 video system.
- **BROADCAST SYSTEM**
This VTR can receive and record PAL I programmes.
- **NTSC ON PAL TV**
This VTR enables you to watch a tape recorded on an NTSC video system.

SP/LP TAPE SPEED MODES

This VTR can record and play back in the SP or LP tape speed.

COUNTER FUNCTION

- **Linear time counter function:** Shows the elapsed time of the tape in real time during recording or playback.
- **Index/skip search function:** You can easily locate the desired programme using the index signal registered on the tape.

TIMER FUNCTION**On-screen Programming (OSP)**

- The clock, timer programme recordings can be easily set by on-screen programming, using the remote controller and the on-screen display.
- Up to 6 programmes for recording within a month can be set.

DIGITAL AUTO TRACKING

The tracking of the playback picture is automatically adjusted for best possible picture.

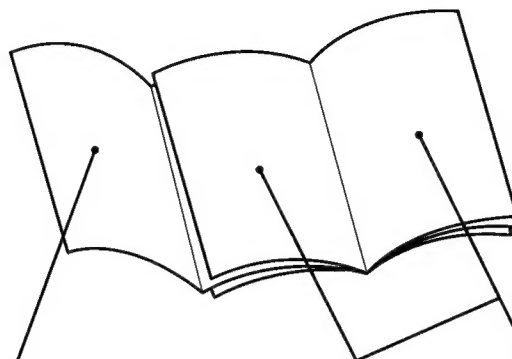
AUTO HEAD CLEANER

The auto head cleaner automatically cleans the video head.

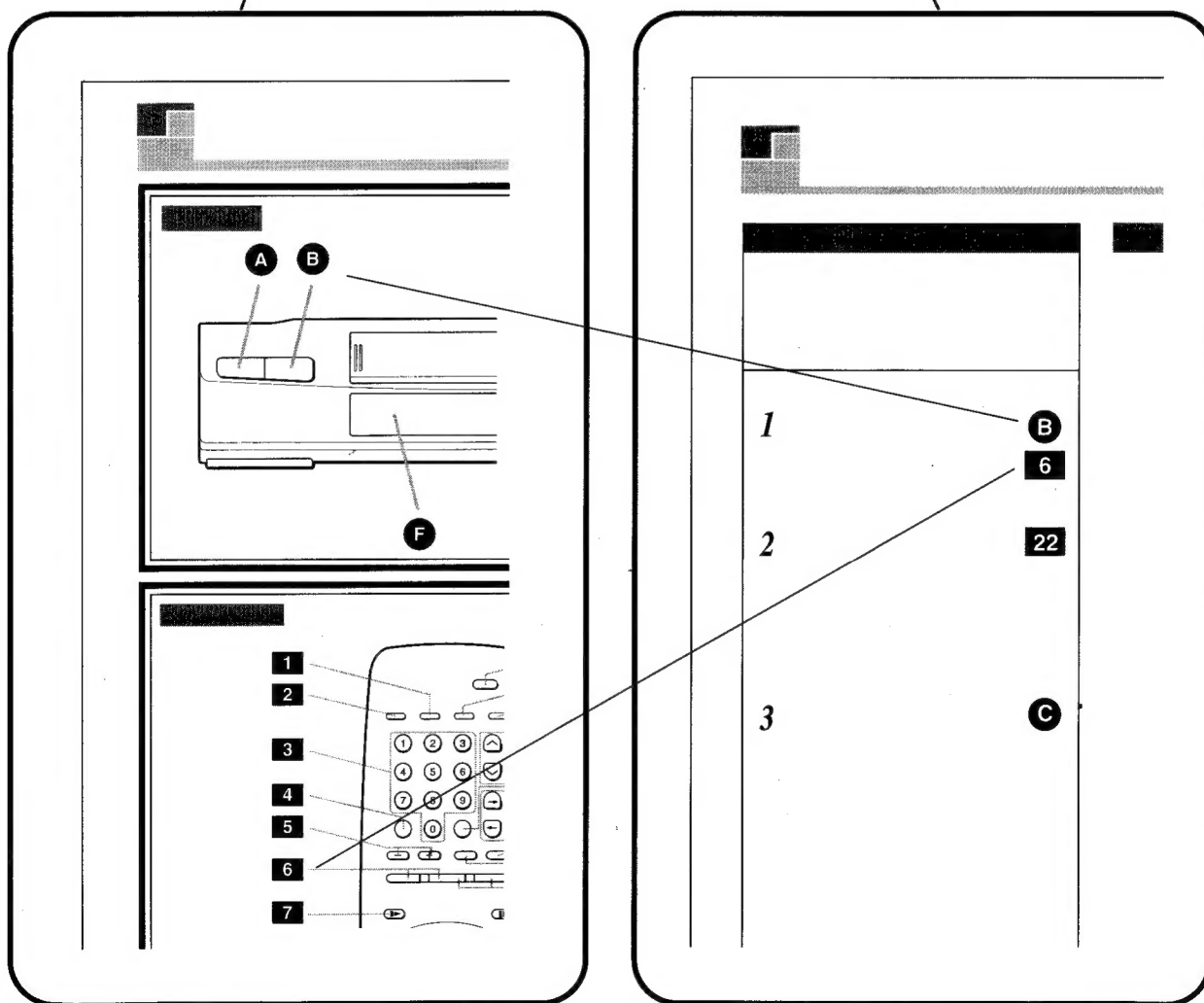
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For convenient use of this manual

Fold out the leaf of this page.



Each part has a number for identification, which is used also in the texts for reference.
You can easily locate the parts using these numbers.



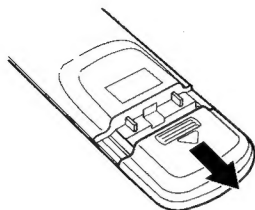
- Numbers in the circle refer to the parts on the front panel: those in the square to the remote controller.

HOW TO USE THE REMOTE CONTROLLER

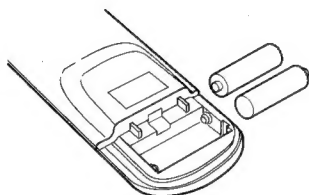
This section explains how to get ready for remote controller operation.

Setting up the Remote Controller

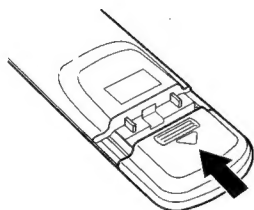
- 1** Open the battery compartment lid on the rear panel.



- 2** Install 2 batteries (R03 size) following the polarity diagrams.



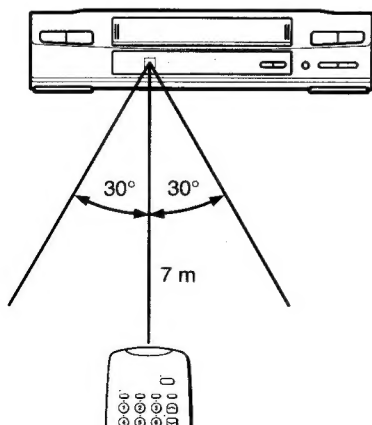
- 3** Close the battery compartment lid.



- 4** Point the remote controller at the VTR and press the buttons within the operating range as illustrated.

Distance: within about 7 m from the front of the remote sensor

Angles: within about 30° in every direction



Notes on Batteries

- The life of the batteries is about 1 year depending on the conditions of use.
- If the remote controller does not operate correctly, replace all batteries with new ones.
- Do not dispose of the batteries by fire.
- If the remote controller is not to be used for a long period of time, remove the batteries to avoid possible damage from battery corrosion.

Caring for the Remote Controller

- When using the remote controller, press the buttons at intervals of about 1 second to ensure the correct mode of operation.
- Keep the remote controller away from extremely hot or humid places and avoid sharp impacts.
- Do not expose the remote sensor of the VTR to a strong light source such as direct sunlight or illumination.
- Be careful not to spill water on the remote controller or to place it on anything wet.

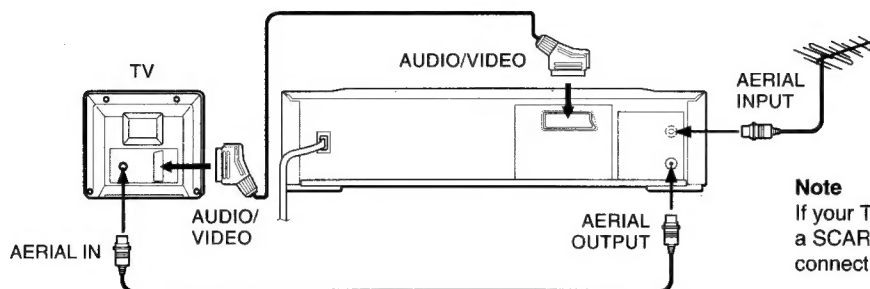
AUTO SET UP

The Auto Set Up function automatically tunes in all TV stations and sets the clock. All you have to do is to connect the VTR to your TV, and then plug the power cable into the mains outlet.

Auto Set Up

- 1** Connect the VTR to your TV with an aerial cable from the main antenna.

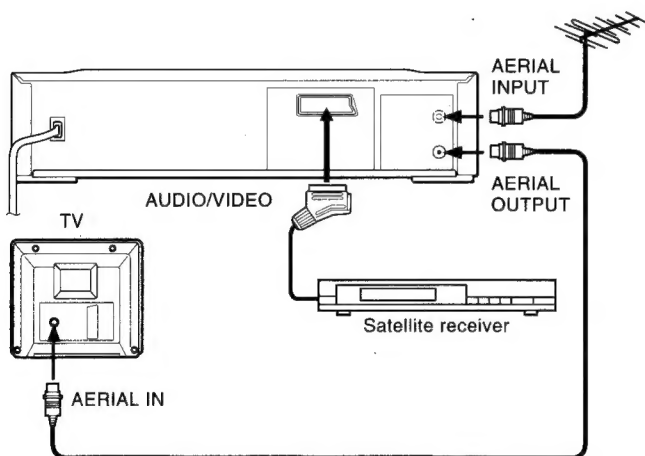
To receive TV stations only



Note

If your TV has a SCART socket, use a SCART cable (not supplied) to connect the VTR.

To receive satellite channels as well

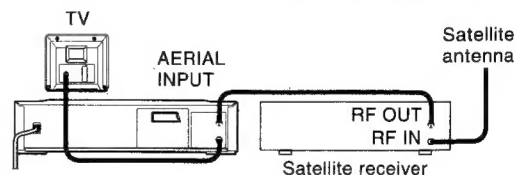


- To watch a picture from the VTR using this connection, it is necessary to set the video channel on the TV. (See page 10.)
- To watch or record a programme from the connected satellite receiver, press the **INPUT SELECT** button so that "L" indicator appear in the VTR display.

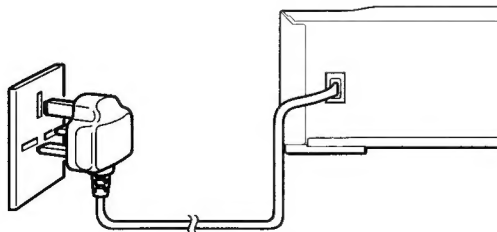
2

Note

If your satellite receiver does not have a SCART socket, it can be connected using RF lead between aerial and the VTR. Set a spare channel on the VTR for the satellite output. (See page 27.)



- 2** Plug in the VTR to start its Auto Set Up.
The display will flash "AUTO" for a few minutes.



VTR display



When complete, the display will show the time e.g. "14:30".

The Auto Set Up has now tuned in all the TV stations on this VTR and set the time.

You now need to set the video channel on your TV if you make a connection without the SCART cable. (See next page.)

Note

The Auto Set Up procedure above is available only on the first time you connect this VTR. See pages beginning from 26 for the next time.

WATCHING THE VIDEO PICTURE

The way you operate the unit to watch a video picture depends on whether you use a SCART cable or not.

For SCART Cable Users

■ To watch a video picture from the VTR

Insert a cassette and press the **PLAY** button on the remote controller or front panel of the VTR.

■ To watch or record a programme from the connected satellite receiver

Press the **INPUT SELECT** button so that "L" indicator appear in the VTR display.

8

D

2

For Non-SCART Cable Users (Setting the Video Channel)

The VTR signals are sent to your TV from the **AERIAL OUTPUT** socket. Your TV must have a channel set aside exclusively for these VTR signals. This is called the video channel.

Preparation

1 Turn on the TV.

2 Select a free channel on the TV which you wish to use for your video picture, for example channel 9. This channel 9 will be only used for watching a video picture.

3 Press the **ON/STANDBY** button to turn on the VTR.



12

A

4 Hold down the **OSP** button for more than 5 seconds.



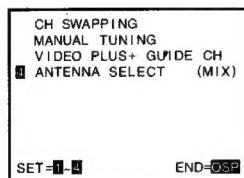
VTR display

VIDEO



17

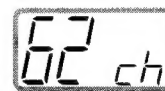
5 Tune the TV (on channel 9 for example in step 2) so that the following screen is shown clearly. (For tuning the TV, refer to the TV's manual.)



6 If after tuning (in step 5), you still have some interference because of neighbouring broadcast channels, press the **SHIFT** button to select another video channel between channels 50 and 67.



VIDEO



16

Re-tune the TV to around UHF channel 62 (for example), and confirm the screen is shown clearly.

7 Press the **OSP** button. Video channel setting is complete.

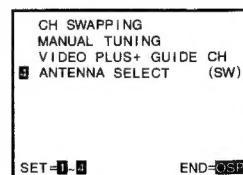
17

Note on the antenna output

On the screen in step 5 in "Setting the Video Channel", the antenna output can be set to "MIX" or "SW". (Applied when the VTR is connected to your TV only via the **AERIAL OUTPUT** socket.)

Press **number button 4** to select "MIX" or "SW".

3



MIX: You can watch a video picture on the video channel regardless of whether or not you have pressed the TV/VIDEO button. The switch should only be set to "SW" if the video pictures or TV pictures cannot be obtained clearly.

SW: You can watch a video picture on the video channel only when the "VIDEO" indicator is lit in the VTR display by pressing the TV/VIDEO button.

1

CHECKING AUTO SET UP / CHANNEL SWAPPING

This section explains how to check if the TV stations are stored on the VTR correctly. If they are not stored correctly, you must enter them manually. (See page 27.)

Checking Auto Set Up

Using the **CH/TRK** buttons on the VTR's remote controller, check that the order of the TV stations stored on the VTR is as below. (This is important for the correct functioning of Video Plus+.)

Position number	TV Station
1	BBC1
2	BBC2
3	ITV
4	Channel 4
5	Channel 5 (From 1997)
6	Satellite Receiver

Position number 5 is reserved for Channel 5 and Position number 6 for a satellite receiver connected with an aerial cable. These positions will be empty if there is no satellite receiver connected, or if you cannot receive Channel 5 broadcast.

Any other stations are stored from position number 7 onward. If one of these has a better picture or is your preferred regional station, (e.g. Carlton instead of Meridian) then you can swap this into another position number. See the procedure below.

Channel Swapping

This VTR can move a TV station stored by Auto Set Up to another position number. This is called "Channel Swapping".

Example

To move a TV station stored on position number 7 to position number 3.

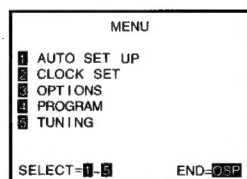
- 1 Select position number 7 with the **CH/TRK** buttons.



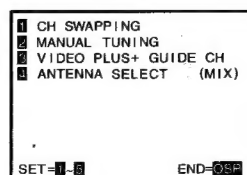
VTR display



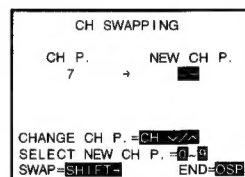
- 2 Press the **OSP** button. The MENU screen appears.



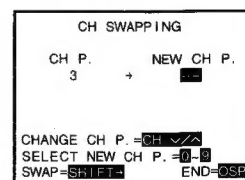
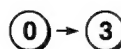
- 3 Press number button 5 to select "TUNING AND SATELLITE".



- 4 Press number button 1. The following text will be superimposed over the position number you selected.



- 5 Press number button 0 and 3 to select a new position number, then press the **SHIFT**(→) button.



- 6 To select another stored station to move, press the **CH/TRK** buttons and follow step 5.

- 7 Press the **OSP** button. Now Channel Swapping is completed. Further press the **OSP** button twice to return to the normal TV screen.

ON SCREEN DISPLAY / VIDEO CASSETTE USE

The VTR tells you current operating modes on the TV screen.

Displays and Indicators on the Screen

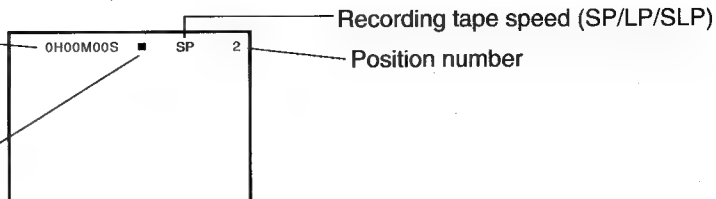
Pressing the **DISPLAY** button makes the operating mode appear. If you press this button again, the indication goes off, leaving the counter indication on the screen. To turn it off, press the **DISPLAY** button once more.

Counter indication

- Linear time counter
- Clock

Each time the **COUNT** button is pressed, the indication changes. (For details, see page 19.)

14



The indicator varies with the operating mode.

Ejecting a tape	▲
Stop	■
Fast-forwarding Forward picture search	▶▶
Rewinding Reverse picture search	◀◀
Recording	●
Recording pause	⏸
Playback	▶
Still picture Frame advance	⏮
Slow playback	▶▶

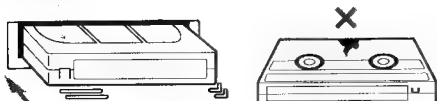
Note

In addition to the indication above, the VTR may display other indicators such as index search. See respective pages for each explanation.

Video Cassette Use

■ Loading a Cassette

Push the cassette into the cassette compartment with the window side facing up and the label side towards the front. The VTR is automatically turned on. The indicator will appear in the VTR display.



■ Ejecting a Cassette

Press the **EJECT** button. The cassette is ejected from the cassette compartment.

Warning

Do not insert your hands or any foreign objects into the compartment. This may result in injury or damage. Take special care with children to avoid accidents.

Precautions When Using Video Cassettes

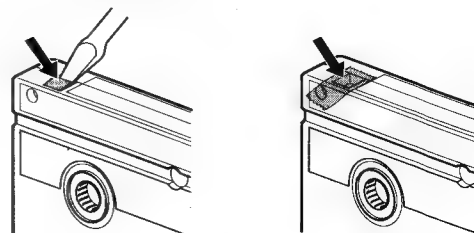
Video cassettes have a safety tab to prevent accidental erasure. If the tab has been removed, recording cannot be performed.

■ To prevent accidental erasure

Remove this safety tab with a screwdriver.

■ To record again

Cover the tab hole with adhesive tape.



- Avoid exposing cassettes to direct sunlight. Keep them away from heaters.
- Avoid extreme humidity, vibrations or shock, strong magnetic fields (near a motor, transformer or magnet) and dusty places.

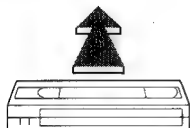
This section explains the basic playback operation.

Playback

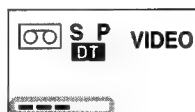
Preparation

Select the video channel or video input mode on the TV.

- 1** Load a recorded cassette. Power is turned on. C
If the cassette has no safety tab, playback starts automatically.



- 2** Press the **PLAY** button to start playback. 8 D



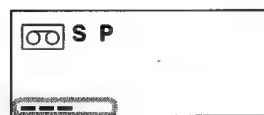
- 3** To stop playback, press the **STOP** button. 23 E



- To rewind, press the **REW** button in the stop mode. 9 J



- To fast-forward, press the **FF** button in the stop mode. 22 K



Note

TVs connected via SCART cables normally select the video input mode automatically when the PLAY button is pressed.

Adjusting the Tracking

Digital Auto Tracking

When playback starts, the VTR automatically adjusts the tracking for clear pictures and sound. The "DT" indicator blinks during the adjusting.



Notes

- During the adjusting, the playback picture and sound may be distorted.
- The digital auto tracking is activated only in the playback mode.

Adjusting the tracking manually

If the VTR cannot locate the best possible tracking point, hold down one of the **CH/TRK** buttons until you obtain the best possible picture and sound. 15



Notes

- To reset the tracking point to the center, press both the CH/TRK buttons simultaneously. 15 H
- To resume the digital auto tracking, hold down both the CHANNEL buttons on the VTR simultaneously for about 2 seconds.
- The noise on the screen may not be completely eliminated depending on the tape used, especially when the tape was recorded on another VTR.

Playback and recording with the LP tape speed

When playing back a tape that has been recorded on another VTR, it may happen that the picture colour disappears, the picture becomes unstable and that noise occurs. It is therefore recommended that tapes that have been recorded on this VTR also are played back on this VTR.

RECORDING OF TV PROGRAMMES

This section explains the basic recording operation.

Recording a TV Programme

Preparation

- Turn on the VTR.
- Select the video channel or video input mode on the TV.

1 Load a cassette with the safety tab attached. C

2 Press the **TV/VIDEO** button so that the "VIDEO" indicator appears in the VTR display. 1

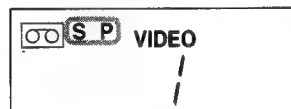


3 Select the TV programme (position number) to record with the **CHANNEL** buttons on the VTR, or the **CH/TRK** buttons or **number buttons** on the remote controller. H
15



If you record satellite programmes via the AUDIO/VIDEO (SCART) socket using the satellite receiver (page 9), press the **INPUT SELECT** button to make "L" appear in the VTR display. Select the desired satellite channel on the connected satellite receiver. 2

4 Press the **SP/LP** button to select the recording tape speed. 10



SP: Suitable for general recording with better picture and sound quality.

LP: Suitable for doubling recording time, but with less picture and sound quality than using the SP tape speed.

5 Press the **REC** button on the VTR, or simultaneously press the two **REC** buttons on the remote controller. Recording starts. I
6



6 Press the **STOP** button to stop recording. 23
E

Watching a TV Programme While Recording Another

- 1) While recording, press the **TV/VIDEO** button so that the "VIDEO" indicator if displayed disappears in the VTR display. 1
- 2) Choose another channel using the channel selector on the TV.

Note

To monitor the programme which is being recorded, press the **TV/VIDEO** button so that the "VIDEO" indicator will appear in the VTR display. Select the video channel or video input mode on the TV. 1

Skipping Unnecessary Scenes While Recording

Press the **PAUSE/STILL** button to stop recording momentarily. To resume recording, press the **PAUSE/STILL** button again. 21

Note

The VTR automatically shifts to the stop mode if the recording pause mode continues for 10 minutes.

Video Plus+ RECORDING

You can easily programme a recording simply by entering the PlusCode. The numbers are published in the TV listings of newspapers, TV guide magazine, etc.

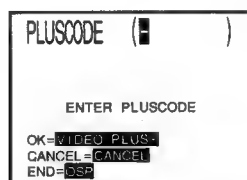
Video Plus+ Recording

Preparation

- Turn on the VTR.
- Select the video channel or video input mode on the TV.
- Make sure that the clock is set correctly.
- Make sure that the TV stations have stored properly (page 11).

- 1** Press the **VIDEO PLUS+** button.
The VTR enters the Video Plus+ mode.

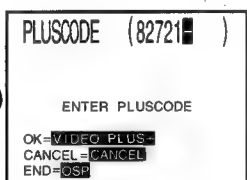
11



- 2** Enter the PlusCode.
Example: To record a TV programme beginning at 21:30 on August 30, 1996 with PlusCode 82721 (fiction).

Press **number button 8, 2, 7, 2 and 1**.
Confirm that the entered number is correct.

3

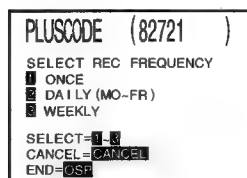


- To correct the number, clear all digits by pressing the **CANCEL** button and re-enter a number.

19

- 3** Press the **VIDEO PLUS+** button.
The TV screen changes as follows:

11

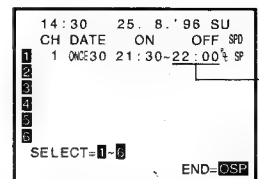


- ONCE:** One-time recording.
- DAILY (MO-FR):** Records TV programmes on the same TV channel at the same time Monday through Friday.
- WEEKLY:** Records TV programmes on the same TV channel at the same time on the same day every week.

- 4** To select "ONCE" for example, press **number button 1**. The "ONCE" programming has been made automatically.
Programme details are shown.

3

①



Ex.If you set 10 minutes time extension on the **OPTIONS** screen (see below), "OFF" displays 22:10.

- 5** To change the tape speed, press the **SP/LP** button.

10

- 6** Press the **VIDEO PLUS+** button.
The programme setting is now memorized.

11

- 7** To enter another PlusCode, repeat steps 2 to 6.

- 8** Finally press the two **TIMER** buttons simultaneously. The VTR enters the timer standby mode and the indicator lights up.

20



Setting Time Extension

Before making a Video Plus+ recording, set possible time extension for the recording to allow for programme's overrun. You can extend the recording time in 10 minute increments up to 60 minutes.

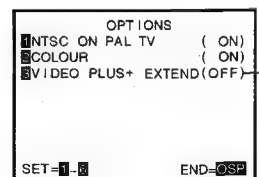
- 1)** Press the **OSP** button to display the MENU screen.
- 2)** Press **number button 3** to select "OPTIONS".
- 3)** Press **number button 3** repeatedly to set desired time extension.

17

3

3

③



OFF - 60 - 50 - 40 - 30 - 20 - 10

- 4)** Press the **OSP** button twice to exit.

17

Notes

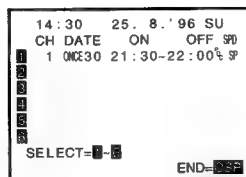
- Extend time should be set before starting Video Plus+ recording procedure.
The time extending doesn't work on recording programmes already memorized.
- When you do not use time extension for Video Plus+ recording, set to "OFF" on the **OPTIONS** screen.

Confirming the Video Plus+ Timer Programme

- Before the VTR enters the timer standby mode
(⏻ indicator not lit)

- 1) Press the **OSP** button to display the MENU screen. 17
- 2) Press **number button 4** to select "PROGRAM". 3

4



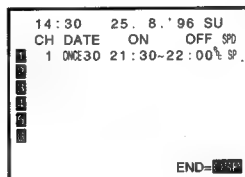
Check the programmed data.

- 3) Press the **OSP** button twice to exit. 17

- During the timer programme recording.
(⏻ indicator lit)

Press the **OSP** button.
The screen for confirming appears.

OSP



After about 30 seconds, the screen disappears.

Cancelling the Video Plus+ Timer Programme

- 1) If the ⏻ indicator is lit, press the two **TIMER** buttons to turn it off, and turn on the VTR by pressing the **ON/STANDBY**. 20
12
- 2) Press the **OSP** button to display the MENU screen. 17
- 3) Press **number button 4** to select "PROGRAM". 3
- 4) Select a program number which you want to cancel by using **number buttons**. 3
- 5) Press the **CANCEL** button.
The line is cleared out. 19
- 6) Press the **OSP** button. 17

Recording or Playback in the Timer Standby Mode

First press the two **TIMER** buttons to release the timer standby mode, and then press the **ON/STANDBY** button to turn on the VTR. The VTR will be available for use. 20
12

- Be sure to press the two **TIMER** buttons again to return the VTR to the timer standby mode after you operate. 20

If a power failure occurs during the timer programme recording

- If the ⏻ indicator is missing in the VTR display after the power failure, the programmed contents have been cleared. Reset the timer programming.
- When power has failed for a short time, the colon of the current time display blinks. The programmed contents are not affected. Reset the clock.

Error Indicators

When the "FULL (CLEAR PROG?)" message appears on the TV during programming, no more programmes can be entered. If you want to add another programme, select one existing programme on the screen by using number buttons, and press the **CANCEL** button to delete it.

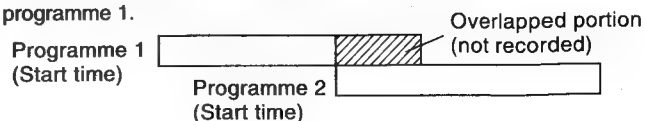
If impossible PlusCode is entered, "INVALID CODE ENTERED" or "INVALID DATE ENTERED" blinks on the screen to tell you that the recording cannot be performed. Press the **CANCEL** button to clear the PlusCode and enter correct one.

If "CLASH" message appears on the screen during programming, it tells you that two programmes with the same recording start time have been entered. You have to make a correction. On this screen, blinking item number means that the item has been entered later.

- 1) Enter the number of the programme you want to correct using **number buttons**.
- 2) Correct the timer programme data, or clear the data by pressing the **CANCEL** button and then press the **VIDEO PLUS+** button to enter the PlusCode.

Overlaps the programmes

If two programmes overlap, the recording start time of programme 2 has a priority over the recording end time of programme 1.



TIMER PROGRAMME RECORDING

The programmable timer allows you to record up to 5 different programmes over one month.

Timer Programming Procedure

Preparation

- Select the video channel or video input mode on the TV.
- Turn on the VTR.
- Make sure that the clock is set correctly.

Example

To record a programme of a station stored on position number 1 (e.g. BBC1) in the SP tape speed from 21:30 until 22:00 on August 30. Today is August 25.

1 Load a cassette with the safety tab attached. **C**

2 Press the **OSP** button to display the MENU screen. **17**

3 Press **number button 4** to select "PROGRAM". **3**

④

14:30	25. 8. '96	SU
CH	DATE	ON OFF SPD
1	ONCE25	-----:--% SP
SELECT=1-1		
END=OSP		

Programme number 1 is ready to accept your input.

4 Select an empty programme number using **number buttons 1 to 6**. **3**

①

14:30	25. 8. '96	SU
CH	DATE	ON OFF SPD
1	ONCE25	-----:--% SP
END=OSP		

5 To select position number 1, press **number button 0 and 1**. **3**

① → ①

14:30	25. 8. '96	SU
CH	DATE	ON OFF SPD
1	25	-----:--% SP
ONCE=1 DAILY= WEEKLY=		
END=OSP		

- If you record via the AUDIO/VIDEO (SCART) socket using the external equipment such as the satellite receiver (page 9), press the **INPUT SELECT** button to make "L" appear in the "CH" column. **2**

To make corrections:

Press the **SHIFT (←)** button to move back to the item, or the **SHIFT (→)** button to move forward. **16**

6 Select a frequency of recording. (eg. once) **3**

①

14:30	25. 8. '96	SU
CH	DATE	ON OFF SPD
1	ONCE25	-----:--% SP
END=OSP		

You can also set daily or weekly timer programme recordings. (See next page.)

7 Set the recording date. **3**

③ → ①

14:30	25. 8. '96	SU
CH	DATE	ON OFF SPD
1	ONCE30	-----:--% SP
END=OSP		

8 Set the recording start time and the off time. **3**

② → ① → ③ → ①

② → ② → ① → ①

14:30	25. 8. '96	SU
CH	DATE	ON OFF SPD
1	ONCE30	21:30-22:00% SP
PDC ON=1 PDC OFF=1		
END=OSP		

9 To set PDC, press **number button 1**: if not set, press **number button 2**. **3**

①

14:30	25. 8. '96	SU
CH	DATE	ON OFF SPD
1	ONCE30	21:30-22:00% SP
SP=1 LP=1		
END=OSP		

10 Select the tape speed (SP). **3**

①

14:30	25. 8. '96	SU
CH	DATE	ON OFF SPD
1	ONCE30	21:30-22:00% SP
SELECT=1-1		
END=OSP		

To set another programme, follow steps **4** to **10**. In step **4**, select next programme number.

11 Press the **OSP** button.

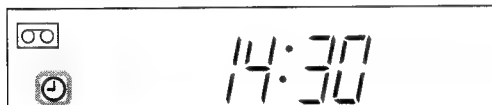
17

12 Press the two **TIMER** buttons simultaneously.

20



The power turns off and the VTR enters the timer standby mode.



Daily and Weekly Recording

Daily recording

You can record TV programmes on the same channel at the same time Monday through Friday. Press **number button 2** for "DAILY" in step 6.

3

Weekly recording

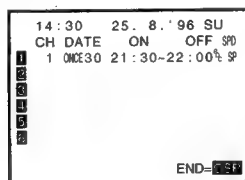
You can record TV programmes on the same channel on the same day and time every week. Press **number button 3** for "WEEKLY", then **number button 1 to 7** to select a day of the week in step 6.

3

Confirming the Timer Programmes (During the Timer Programme Recording)

Press the **OSP** button.
The screen for confirming will appear.

17



After about 30 seconds, the screen disappears.

Changing/Cancelling the Timer Programmes

1) If the **⌚** indicator is lit, press the two **TIMER** buttons to turn it off, and then turn the VTR on by pressing the **ON/STANDBY** button.

20

12

2) With steps 2 to 11, change the items.

- To cancel a programme, select the programme number you want to cancel in step 4, and press the **CANCEL** button. The line is then cleared.

19

3) Press the two **TIMER** buttons to return to the timer standby mode.

20

Recording or Playback in the Timer Standby Mode

First press the two **TIMER** buttons to release the timer standby mode, and then press the **ON/STANDBY** button to turn on the VTR. The VTR will be available for use.

20

12

- Be sure to press the two **TIMER** buttons again to return the VTR to the timer standby mode after you have finished.

20

Error Indication

- The "E" (Error) indicator appears in the VTR display if you press the **TIMER** buttons when:
 - a cassette is not loaded.
 - the loaded cassette has no safety tab.
 - no timer programme is set.
 In these cases, a recording can not be made.

If a power failure occurs during the timer programme recording

- If the **⌚** indicator is missing in the VTR display after the power failure, the programmed contents have been cleared. Reset the timer programming.
- When power has failed for a short time, the colon of the current time display blinks. The programmed contents are not affected. Reset the clock.

Overlaps of the programmes

If two timer programmes overlap, the recording start time of programme 2 has priority over the recording off time of programme 1.



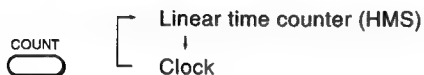
These functions will help your playback.

Counter Function

You can view the clock or linear time counter in the VTR display or on the TV screen.

Counter Displays

Each time you press the **COUNT** button, the VTR display changes in sequence as follows:



14

The indication above will also appear on the TV screen by pressing the **DISPLAY** button. They are switchable with the **COUNT** button.

4

14

To reset the linear time counter to "0H00M00S"

The counter is automatically reset to "0H00M00S" when a cassette is ejected. If you want to reset at another point, such as the beginning of a new recording, just press the **COUNTER RESET** button.

13

Notes

- The linear time counter does not work on non-recorded portions on the tape.
- When the tape is ejected or the VTR is turned off, the display changes to clock.
- If the tape rewinds back over "0H00M00S", "—" appears in the VTR display.
- The displayed time of the linear time counter is only an approximation.

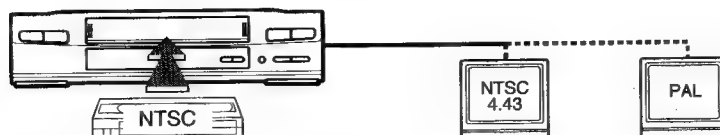
NTSC-RECORDED TAPE PLAYBACK

This VTR can play back an NTSC-recorded tape. You can watch the playback picture on a PAL system TV or an NTSC 4.43 system TV.

Setting for NTSC Playback

When you play back an NTSC-recorded tape on this VTR, make a setting on the OPTIONS screen according to your TV.

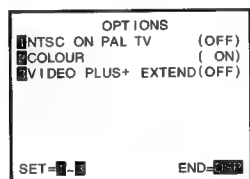
NTSC Tape: tapes on which NTSC M system broadcasts mainly broadcast in the U.S. and Japan are recorded, and tapes recorded in the NTSC video system which are commercially available on the market.



Multi System TV (NTSC 4.43 compatible)

- 1 Press the **OSP** button to display the MENU screen. 17
- 2 Press **number button 3** to select "OPTIONS". 3
- 3 Set "NTSC ON PAL TV" to "OFF" by pressing **number button 1**. 3

①

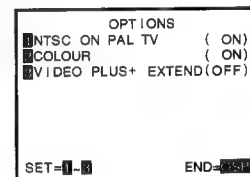


- 4 Press the **OSP** button twice to exit. 17

PAL System TV

- 1 Press the **OSP** button to display the MENU screen. 17
- 2 Press **number button 3** to select "OPTIONS". 3
- 3 Set "NTSC ON PAL TV" to "ON" by pressing **number button 1**. 3

①



- 4 Press the **OSP** button twice to exit. 17

Note

With this VTR, an NTSC tape recorded in the SLP tape speed can be played back. But there are some points to be observed.

- The quality of the playback picture and sound are not clear.
- Variable speed playback (picture search, still, slow playback, etc.) can't be performed properly.
- Digital auto tracking may not be performed properly.

Notes for Using a PAL TV for NTSC Playback

- Use a TV compatible with PAL video signals of PAL 60 (525 lines).
When the TV, that is not compatible with PAL video signals of PAL 60, is used (when the TV, that is compatible only with PAL video signals of PAL 50 (625 lines), is used) NTSC playback pictures may roll up and down. This is not malfunction of the VTR or the TV.
If your TV is equipped with a V-HOLD control, it may be possible to stop the rolling of pictures by adjusting this control.
About PAL 50 and PAL 60 of PAL video signals:
PAL 50 : is a normal signal and its PAL video signal is 50 fields (625 lines).
PAL 60 : is a special signal and its PAL video signal is 60 fields (525 lines).
Some TVs operate properly only with PAL 50 signals, some TVs operate properly with both PAL 50 and 60 signals.
Therefore, if your TV is switchable between PAL 50 (625 lines)/PAL 60 (525 lines), you can view an NTSC recorded tape in the PAL colour system with your own TV.
- Depending on the TV used, the picture may shrink vertically and black bars may appear both at the top and bottom of the TV screen. This is not an indication of malfunction.
- Variable speed playback (picture search, still, slow playback, etc.) may produce a skewed image and quite a bit of noise on the picture.
- If the tape pre-recorded in the SP tape speed mode is played back in the picture search mode, the picture may be reproduced with no colour.

Note

For viewing an NTSC-recorded tape, we recommend using an NTSC 4.43 TV.


VARIABLE SPEED PLAYBACK

You can play back a tape at various tape speeds.

Picture Search

You can locate a particular scene while viewing a playback picture in the fast-forwarding or rewinding mode.

- 1** During playback, press the **REW** or **FF** button. 9
22
The tape runs at 5 times the normal playback speed.

Playback →  to reverse picture search (5 times)

Playback →  to forward picture search (5 times)

- 2** If you continue to press and hold the **REW** or **FF** button, the search speed increases. 9
22

Reverse picture search (5 times) →  Hold down. To reverse picture search (13 times)

Forward picture search (5 times) →  To forward picture search (13 times)

Hold down.

When you release the button, the speed returns to 5 times.

- 3** To resume normal playback, press the **PLAY** button. 8
D



Notes

- The picture will have some interference. This is not a defect in the unit.
 - If you play back a tape recorded in the LP tape speed or recorded on another VTR in various speed mode, the picture may be noisy or monochrome.
 - If you press the **REW** or **FF** button while rewinding or fast-forwarding the tape, the VTR enters the picture search mode.
- If you press the **REW** or **FF** button while picture searching, the VTR enters the rewinding or fast-forwarding mode, respectively.

9

22

9

22

Still Picture

You can freeze a picture to watch closer.

- 1** During playback, press the **PAUSE/STILL** button. 21
The picture freezes.

Playback →  to still picture

- 2** To resume playback, press the **PAUSE/STILL** button again. 21

Still picture →  to normal playback

The still mode is automatically cancelled after about 5 minutes and returns to normal playback.

Notes

- The still picture may shake if a picture of a fast-moving object or scene is frozen. This is not a defect in the unit.
- If you play back a tape recorded in the LP tape speed or recorded on another VTR in various speed mode, the picture may be noisy or monochrome.
- If noises appear in the still picture, adjust the tracking manually in the slow-motion mode. (See next page.)

Adjusting Still Picture Stability

If the still picture is distorted or flickers, hold down one of the **CH/TRK** buttons until the picture becomes stable. 15



Note

The distortion of the still picture may not be eliminated completely.

Frame Advance

You can advance the picture frame by frame.

- 1** During playback, press the **PAUSE/STILL** button. 21



- 2** Press the **PLAY** button. 8
D
Each time you press the button, the picture advances one frame.
While the button is held down, the tape runs at 1/25th the normal playback speed.

- 3** To resume normal playback, press the **PAUSE/STILL** button. 21

Slow-motion Picture

You can playback at 1/6th or 1/12th the normal playback speed.

- 1 During playback, press the **SLOW** button. The tape will run at about 1/6th the normal playback speed.



7

- 2 If you press the **SLOW** button again, the speed changes to 1/12th. Each time you press the button, the speed changes between 1/6 and 1/12.

7

- 3 To resume normal playback, press the **PLAY** button.

8

D

The slow-motion picture mode will be cancelled automatically after approximately 5 minutes to shift to the normal playback mode.

Note

The slow-motion picture may flicker up and down. This is not a defect in the unit.

Adjusting the Tracking Manually

If the slow-motion picture is noisy, hold down one of the **CH/TRK** buttons until the best picture is obtained.

15



Note

The noise in the slow-motion picture may not be eliminated completely by the tracking adjustment.

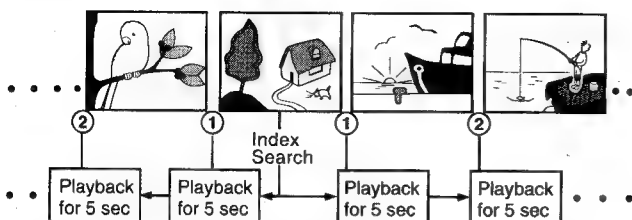
INDEX SEARCH/SKIP SEARCH

You can easily locate the desired programme using the index signal registered on the tape.

About This Function

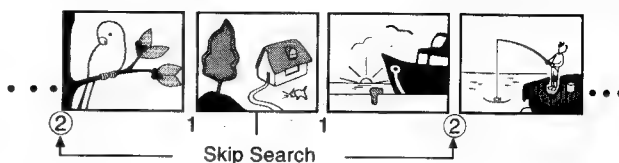
Index Search

The VTR plays back each programme with an index signal for about 5 seconds.



Skip Search

The VTR finds and plays back a programme with an index signal you specified.



To use this function, index signals have to be registered on your tape. For registering index signals, follow the procedure below.

Registering Index Signals

■ Registering index signals automatically

An index signal is automatically registered **when a recording starts**.

Notes

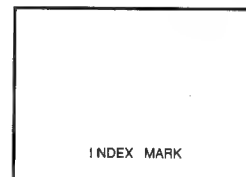
- An index signal is not registered when the VTR is in the recording pause mode and recording restarts.
- An index signal is also registered when a timer programme recording starts.

■ Registering index signals manually

Index signals can be manually registered at a desired points on the tape **during recording**.

Press the **INDEX (+)** button at a desired point.

5



Note

When registering two or more index signals, certain intervals are required: more than 1 minute in the SP tape speed and more than 2 minutes in the LP tape speed.

Index Search

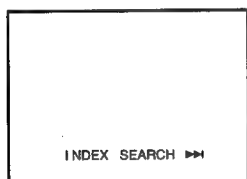
This function plays back the tape for about 5 seconds at each index signal.

- 1 Load a cassette with the index signals registered. C

- 2 Press the **INDEX** (–) or (+) button in the stop or playback mode. 5

 : to search in the reverse direction

 : to search in the forward direction



The VTR fast-forwards or rewinds the tape. When an index signal is found, the VTR plays back the tape for about 5 seconds, and then resumes fast-forwarding or rewinding. This is repeated each time at an index signal.

- 3 Press the **PLAY** button when the desired programme is found. 8 D
Normal playback starts.



Notes

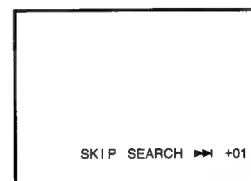
- At the very beginning of the tape, the index search function may not work properly.
- If you registered the index signals on a tape recorded on another VTR, the recording may be blurred at the index point and the index search may not work properly.

Skip Search

This function fast-forwards or rewinds the tape to the point at which the selected index signal is registered, and starts playback from there.

- 1 Load a cassette with the index signals registered. C

- 2 Press the **INDEX** (–) or (+) button twice in the stop or playback mode. 5



- 3 Press the **INDEX** (–) or (+) button depending on the direction where your desired programme is located. 5
Each time you press the (–) or (+) button, the number decreases or increases respectively.

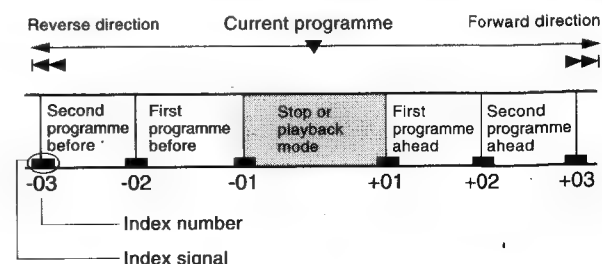


The VTR starts to search for the point you specified with the (–) or (+) button. When the point is found, playback will start automatically.

Notes

- You can set an index number up to ± 20 .
- The skip search is cancelled when the **PLAY** or **STOP** button is pressed.

Locating the Index Number



[Example]

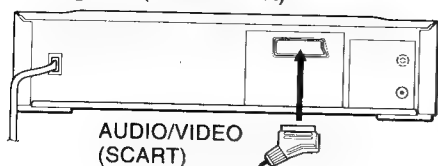
- To locate the beginning of first programme before, press the **INDEX** (–) button three times to set the index number -02. 5
- To locate the beginning of next programme ahead, press the **INDEX** (+) button twice to set the index number +01. 5

TAPE COPYING

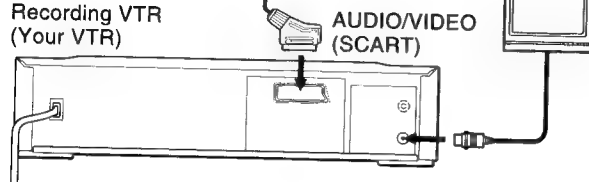
Using another VTR or external equipment, you can copy a tape.

Tape Copying

Playing VTR (Another VTR)



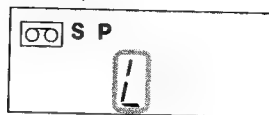
Recording VTR (Your VTR)

**Important**

It is permissible to record television programmes only in the event that third party copyrights and other rights are not violated.

- 1** Press the **INPUT SELECT** button so that the VTR display shows "L" depending on your connection.

When using the AUDIO/VIDEO (SCART) socket



- 2** Press the **SP/LP** button to select the recording tape speed.
- 3** Play the tape on the playback VTR and press the **REC** buttons to start recording on this VTR.
- 4** Press the **STOP** button on each VTR when copying is finished.

Notes

- The picture quality of the copied tape is slightly less than the original picture quality.
- When monitoring a picture being recorded, press the **TV/VIDEO** button to make the "VIDEO" indicator appear in the VTR display and select the video channel on the TV.

2

10

6

1

23

E

1

MANUAL SET UP

The manual procedure of Auto Set Up will help an additional TV station storing or clock resetting, etc.
This VTR can store up to 48 positions for TV stations.

Reset-Up Automatically

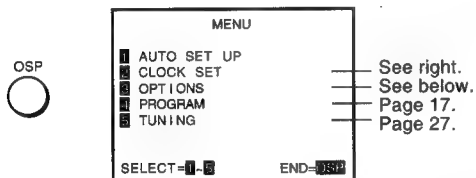
Use this procedure if the Auto Set Up needs to be made again, for example, after a power failure, when plugged off, or in the event of receiving stations change.

Preparation

- Turn on the TV, and select the video input mode or video channel if you made the aerial connection (page 9).
- If your satellite receiver is connected using an RF lead, select SKY ONE on the satellite receiver. Auto set-up will allocate position number 6 on the VTR for the satellite output.

- 1** Press the **ON/STANDBY** button to turn on the VTR. 12

- 2** Press the **OSP** button to display the MENU screen. 17



- 3** Press **number button 1** to select "AUTO SET UP". 3

The VTR starts the automatic TV station storing and clock setting if you press the **SHIFT** (→) button. 16



Note

If "—" is shown, perform "Manual Storing of TV Stations" (pages 27, 28) for the TV station.

AUTO PRESET			
	CH	P.	CH
BBC1	1	:	1-03
BBC2	2	:	1-04
ITV	3	:	1-23
CH4	4	:	1-30

SEARCH=SHIFT END=OSP

- 4** Press the **OSP** button twice to return to the normal TV screen. 17

Note

If the time of the clock is not correct after this procedure, perform "Clock Setting" on this page.

Optional Settings on the OPTIONS Screen

If you press **number button 3** while the MENU screen is displayed, the screen turns to the OPTIONS screen. For details on each item, refer to pages respectively as below. 3



Press **number button 2** to select "OFF", if the TV programme or the tape is monochrome. 3

Clock Setting

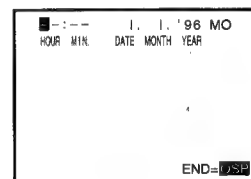
The item to be set blinks. You can change the position by pressing the **SHIFT** buttons. 16

Example To set the clock to 14:30 on August 25, 1996

- 1** Press the **OSP** button. The MENU screen appears on the TV. 17

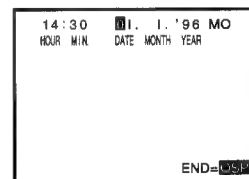


- 2** Press **number button 2** to select "CLOCK SET". 3



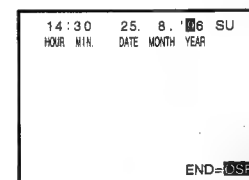
- 3** Set the hours and minutes. (24 hours clock format) 3

① → ④ → ③ → ①



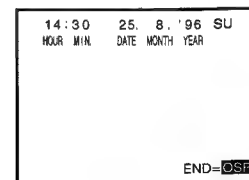
- 4** Set the day and month. 3

② → ⑤ → ① → ⑧



- 5** Set the year with its last two digits. 3

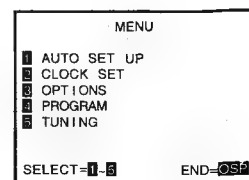
⑨ → ⑥



- 6** Press the **OSP** button. Now the clock starts. 17



- 7** Press the **OSP** button again to exit. 17



Manual Storing of TV Stations

Information

Each TV station operating in the U.K. (e.g. BBC1, ITV) broadcasts on a unique frequency, which in turn has been allocated a transmission channel number (21 – 69). However, this unique frequency and corresponding number changes for each TV station from area to area. For example, BBC1 in London uses channel number 26, while in Oxford BBC1 uses channel number 57 (i.e., CH57). This VTR will indicate these channel numbers (1 – 9, 21 – 69) during tuning.

Preparation

- Select the video channel or video input mode on the TV.
- Turn on the VTR.
- If you use a satellite receiver, make the connection correctly (page 9) and turn it on.

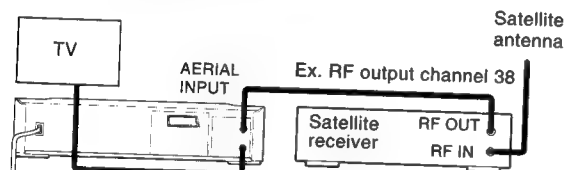
12

Example To store BBC1 to position number 1 on your VTR.

Allocation of the TV stations into the memory of the VTR is expected to be as follows, for Video Plus+ recording.

- BBC1: Position number 1
 BBC2: Position number 2
 ITV: Position number 3
 CHANNEL 4: Position number 4
 CHANNEL 5: Position number 5 (From 1997)

Satellite: Position number 6, example (if connected by an RF lead only as shown below.)



In this case, select position number 6 in step 4, and channel 38 in step 5 if the output channel of your satellite receiver is 38, for example. Make sure that TV receives a satellite broadcast. Whenever you watch or record a satellite programme, select position number 6.

Important

This procedure can be performed only when the VTR display shows a position number on the VTR. If the "L" is displayed, press the INPUT SELECT button so that the position number appears.

2



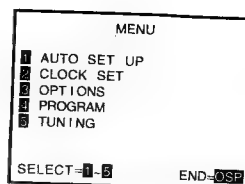
L → 4

Position number

1 Press the OSP button.

17

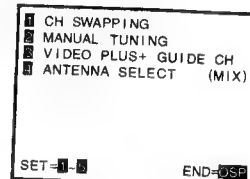
OSP



2 Press number button 5.

3

5



3 Press number button 2 to select "MANUAL TUNING".

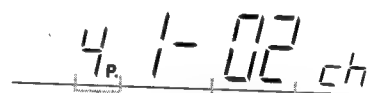
3

The VTR is now in the tuning mode, and the screen display disappears.

VTR display

Example

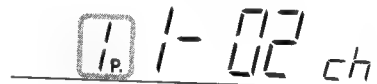
2



Position TV channel number
 number (any No. of 1 – 9, 21 – 69)

4 Press the CH/TRK button to select position number 1.

15



5 Press number button 6 to select a tuning range number.

3

Each time you press the button, the number changes.

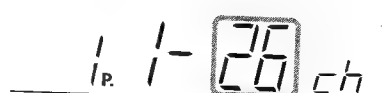
6



6 Press and hold the SHIFT button to start searching for BBC1.

16

Higher numbered channel



Lower numbered channel

If the received TV signal is not BBC1, press and hold the SHIFT button again.

(continued)

- 7** If a clear picture does not appear on the TV screen after searching is finished, make fine adjustment with the **INDEX** buttons.

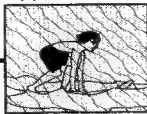
If the picture is monochrome



Best picture



If the stripes appear



- 8** Repeat steps 4 to 6 for other TV stations, and for satellite stations if your satellite receiver is not connected by a SCART (page 9).

Record all position numbers you stored on the VTR in the chart (GUIDE Channel Table) below so that you will be ready to use the Video Plus+ recording.

- 9** Press the **OSP** button. Channel tuning is now finished.

Once station storing is done, you can select a TV programme by the position number on which the TV station is stored.

Skipping Channels

You can prevent the use of certain position numbers.

- Set the VTR to the tuning mode following steps 1 to 3 of the station storing procedure.
- Select the position number you want to skip with the **CH/TRK** button.

Example To skip position number 4.



4 P 1- 43 ch

- Press **number button 3**. The following indication will appear in the VTR display with the skip function on or off.

3

Skip function off

Skip function on

4 P 1- 43 ch 4 P -- ch

If you press **number button 3** again, the TV channel number will appear and the skip function will be cancelled.

- Press the **OSP** button to exit.

To cancel channel skipping

Follow steps 1) to 4) above.

GUIDE Channel Table

TV stations	GUIDE	Position number in which the TV station has been memorized on the VTR.
BBC1	001	1
BBC2	002	2
ITV	003	3
CHANNEL 4	004	4
RTE (IRELAND)	005	
NETWORK 2 (IRELAND)	006	

Satellite stations	GUIDE	Channel on your satellite receiver	
		*A	*B
SKY ONE	101	1	8
SKY NEWS	102	2	12
SKY MOVIES	103	3	16
THE MOVIE CHANNEL	104	4	18
SKY SPORT	105	6	20
NICKELODEON	106	7	46
PARAMOUNT	106	7	46
EUROSPORT	107	19	4
GALA VISION	108		
MTV EUROPE	109	14	15
CHILDREN'S / FAMILY CHANNEL	110	10	35
SKY MOVIES GOLD	111	20	60
BBC WORLD SERVICE	112		
RTL 4	113		
FILMNET 2 / FILMNET +	114		
RTL PLUS INTERNATIONAL	115		
SAT 1	116		
PREMIERE	117		
3 SAT	118		
ARD	119		
PRO 7	120		
TELE 5	121		
TELECLUB	122		
UK GOLD	123	11	23
DISCOVERY / THE LEARNING CHANNEL	124	9	41
BRAVO	125	8	42
EUROPEAN BUSINESS NEWS	125	8	42
CNN	126	29	28
EURONEWS	127		
QVC	129	12	38
UK LIVING	130	13	34
RAI 1	131		
RAI 2	132		
TV5 EUROPE	133		
TVE INTERNATIONAL	134		
MBC/ARABIC	135		
VTM	136		
SPORTNET	137		
CMT EUROPE	138	17	24
VIDEO HITS ONE	139	15	22
SKY SPORT 2 / SKY SOAPS / SKY TRAVEL	140	16	47
THE HISTORY CHANNEL	140	16	
SCI-FI CHANNEL	140	16	
SKY SPORTS GOLD	140	16	
TV ASIA	141		
LA-5	142		
LIVE TV	143		
SUPERCANNEL	144	28	50
JAPAN TV	145	17	24
SELECT TV	146		
MOVIE CHANNEL / FILMNET 1	147	35	63
DISNEY CHANNEL	147	5	26
T.N.T./CARTOON NETWORK	149	18	37

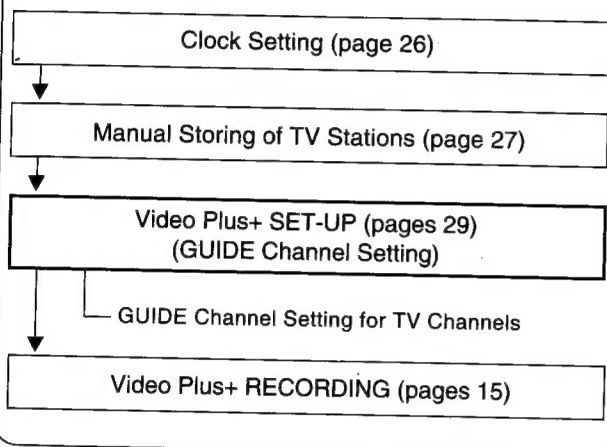
*A is typical SKY order. *B is ASTRA TRANSPONDER order.

GUIDE Channel Setting for TV Channels Manually

Video Plus+ is a timer recording system for an easier programming that requires you only to enter a PlusCode assigned to a desired programme. This section explains the necessary set-up to make Video Plus+ recordings.

Information

You can perform timer recording very easily using the Video Plus+ programming system of this VTR. Before making a Video Plus+ recording, it is necessary to set GUIDE channels in the VTR.



Important

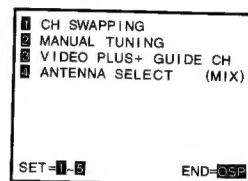
There is no need to perform this procedure if the TV stations have been stored to the position numbers (1 for BBC1, 2 for BBC2, 3 for ITV and 4 for CHANNEL 4) on the VTR (pages 11).

Preparation

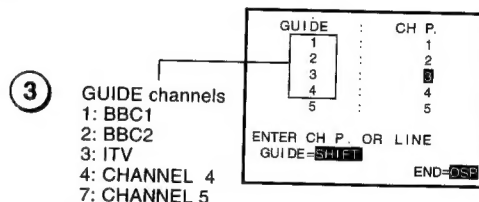
- Select the video channel or video input mode on the TV.

1 Press the **OSP** button to display the MENU screen. 17

2 Press **number button 5** to select "TUNING". 3



3 Press **number button 3** to select "VIDEO PLUS+ GUIDE CH". 3



GUIDE channels 1 to 4 have been factory set to position numbers 1 to 4 respectively. Make sure that the numbers are matched as above.

Note

To set another TV channel, select the GUIDE channel using the SHIFT button, and in the "CH P." column enter the position number in which you have stored the TV station by number buttons. 16
3


4 Press the **OSP** button three times to exit. The GUIDE channel setting for TV channels is complete. 17

Now you can make a Video Plus+ recording of TV programmes.
(See page 15.)

BEFORE CALLING SERVICE PERSONNEL

Check the following symptoms before requesting service.

SYMPTOM	CAUSE	CORRECTION	Referral page
No function and no play.	<ul style="list-style-type: none"> The power cable is not plugged in. 	<ul style="list-style-type: none"> Insert it firmly into the mains outlet. 	—
The VTR does not work even though the power is turned on.	<ul style="list-style-type: none"> There is no cassette in the VTR. 	<ul style="list-style-type: none"> Load a cassette. 	12
The colon between the hour and minute digits blinks in the VTR display.	<ul style="list-style-type: none"> There was a short power failure. 	<ul style="list-style-type: none"> Set the clock. 	26
A TV picture is not good.	<ul style="list-style-type: none"> The TV station is not tuned in precisely. 	<ul style="list-style-type: none"> Adjust it with the TV's fine tuning control. 	—
	<ul style="list-style-type: none"> The video channel is not set correctly. 	<ul style="list-style-type: none"> Set a video channel precisely. 	10
	<ul style="list-style-type: none"> The antenna cable is disconnected. 	<ul style="list-style-type: none"> Connect it again. 	9, 10
	<ul style="list-style-type: none"> The TV signal is weak. 	<ul style="list-style-type: none"> Adjust the antenna direction or use an antenna booster (not supplied). 	—
	<ul style="list-style-type: none"> The power cable of the VTR is not plugged in. 	<ul style="list-style-type: none"> Insert it firmly into the mains outlet. 	—
TV broadcast cannot be received using the buttons on the VTR.	<ul style="list-style-type: none"> "L" is displayed in the VTR display. 	<ul style="list-style-type: none"> Press the INPUT SELECT button so that the position number appears. 	—
	<ul style="list-style-type: none"> The VTR is not set to VTR mode with "SW" set. 	<ul style="list-style-type: none"> Press the TV/VIDEO button to make the "VIDEO" indicator appear in the VTR display. 	10
Channels on the TV are not received when the VTR is on.	<ul style="list-style-type: none"> The VTR is not set to TV mode with "SW" set. 	<ul style="list-style-type: none"> Press the TV/VIDEO button to make the "VIDEO" indicator disappear in the VTR display. 	10
Recording cannot be performed.	<ul style="list-style-type: none"> The safety tab of the cassette is removed. 	<ul style="list-style-type: none"> Use a cassette with a safety tab or cover the tab hole with adhesive tape. 	12
A picture being recorded cannot be seen on the TV.	<ul style="list-style-type: none"> The VTR is not set to VTR mode with "SW" set. 	<ul style="list-style-type: none"> Press the TV/VIDEO button to make the "VIDEO" indicator appear in the VTR display. 	14

SYMPTOM	CAUSE	CORRECTION	Referral page
Playback picture is poor or absent.	• Tracking is not adjusted appropriately.	• Adjust the tracking manually.	13
	• Tuning of the TV is not good.	• Fine tune the TV.	–
	• The video heads are dirty (beyond the head cleaner capacity).	• Consult your dealer for head cleaning.	–
	• The VTR is not set to VTR mode.	• Press the TV/VIDEO button to make the "VIDEO" indicator appear in the VTR display.	–
Noise is heard when playing back a pre-recorded tape.	• Tracking is not adjusted appropriately.	• Adjust the tracking manually.	13
The Video Plus+ recording cannot be done.	• GUIDE channel is not set up correctly.	• Set GUIDE channels correctly.	29
Timer recording cannot be performed.	• No cassette is loaded.	• Load a cassette.	12
	• The safety tab of the cassette is removed.	• Cover the tab hole or use another cassette with a safety tab.	12
	• The timer indicator () is not displayed.	• Press the TIMER buttons.	17
	• Clock setting is not done.	• Set the clock.	26
	• There was a power failure. The clock is reset automatically.	• Try another timer recording.	–
The remote controller does not operate.	• The direction of the remote controller is wrong.	• Point the remote controller at the remote sensor of the VTR.	8
	• Too far from the remote sensor of the VTR.	• Operate it within about 7 m from the VTR.	8
	• An obstacle may be in the way of the operation.	• Remove the obstacle.	–
	• The batteries are exhausted.	• Replace all batteries.	8

SPECIFICATIONS / ACCESSORIES

SYSTEM

Format	: VHS standard
Recording system	: Rotary, 2-head helical scan system
Video heads	: 2 heads
Video signal system	: CCIR; 625 lines, 50 fields, PAL colour signal, NTSC colour, 525 lines
Tape speed	: SP : 23.39 mm/s (PAL) SP : 33.35 mm/s (NTSC) LP : 11.70 mm/s (PAL) SLP : 11.12 mm/s (NTSC)
Recording time	: SP : 240 minutes with E240 cassettes (PAL), LP : 480 minutes with E240 cassettes (PAL)
Winding time	: Approx. 110 seconds with E180 cassettes
Dimensions	: 370 (W) × 89 (H) × 307 (D) mm
Mass	: 4.0 kg
Operating temperature	: +5 to +40°C
Operating humidity	: Less than 80% RH
Mains power	: 230/240 V AC, 50 Hz
Power consumption	: 21 W (in operation)

CONNECTORS

Aerial input	: 75 Ω coaxial
Aerial output	: 75 Ω coaxial
Video input	: AUDIO/VIDEO SCART socket, 1.0 V(p-p), 75 Ω
Audio input	: AUDIO/VIDEO SCART socket, 308 mV(rms), more than 10 k Ω
Video output	: AUDIO/VIDEO SCART socket, 1.0 V(p-p), 75 Ω
Audio output	: AUDIO/VIDEO SCART socket, 308 mV(rms), less than 1.0 k Ω

VIDEO

Signal-to-noise ratio	: More than 43 dB (SP tape speed/PAL)
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AUDIO

Signal-to-noise ratio	: More than 42 dB (SP tape speed/PAL/normal mono)
Frequency range	: 80 Hz to 10,000 Hz

TIMER

Clock	: 24-hour digital indication
No. of events	: 6 events 1 month

TUNER

System	: Frequency synthesizer
Channel coverage	: PAL I VHF: A – J, UHF: E21 – E69
RF converter	: UHF channel 60 (50 – 67, adjustable), System-I

ACCESSORIES

Aerial cable...1	Remote control unit...1	Batteries (R03)...2	Power cable...1
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Designs and specifications are subject to change without notice.